

WINDOWS

DOUBLE HUNG & CASEMENT

of

ARCHITECTURAL BRONZE

NICKEL SILVER

ALUMINUM



GENERAL·BRONZE·CORPORATION

DISTINCTIVE PRODUCTIONS IN·ALL·METALS

LONG ISLAND CITY, N. Y.



BRONZE ENDURES FOR ALL TIME. It is foremost among the group of non-ferrous (non-rusting) alloys, whose base is copper, employed for architectural and building purposes. It has perpetually recorded and preserved civilization's progress and man's art expressions from time immemorial.

Buildings equipped with Bronze work possess certain recognized qualities of dignity, refinement and permanence which tenants quickly detect and which emphasize the owner's pride of possession.

The Bronze Industry has been revolutionized during the last quarter of a century. New alloys, new processes and new construction have been so developed that Bronze Work, heretofore deemed economically impossible for any but costly monumental structures, is now available for the better grade buildings of every class; as is evidenced by a constantly increasing demand and use.

The extruded process has developed a group of standardized metals known as extruded bronze, extruded nickel, and extruded aluminum. This process consists of forcing semi-molten billets through steel dies, forming profiled sections of such uniformity and precision that even fine watch mechanisms can be made from extruded sections. These physical, structural and accuracy values are ideally adapted to architectural work.

GENERAL BRONZE CORPORATION, by extensive engineering study, research and development, has standardized a series of Metal Building Specialties in non-ferrous metals, at the same time preserving those traditional construction methods accepted as worthy of the time-honored qualities of this so-called semi-precious metal.

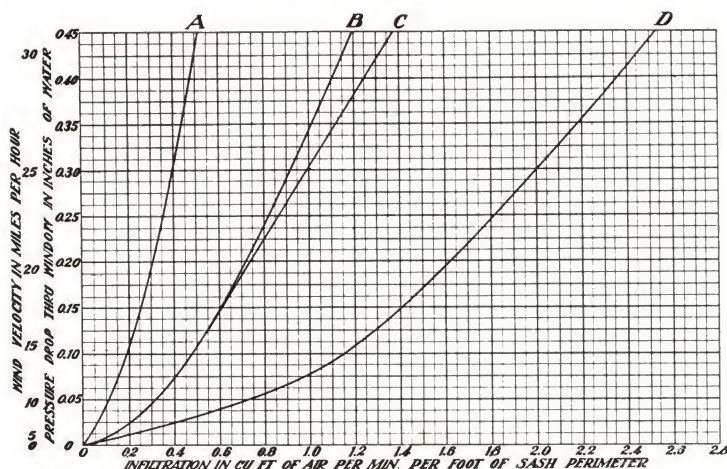
In the following pages we have endeavored to show the excellent qualities of "Polachek" Patented Double Hung and Casement Windows which are fabricated in this construction and by these methods. The advantages gained in mechanical precision, through the use of Extruded Sections, are augmented by the painstaking care of skilled bronze artisans and mechanics in machining, fitting and assembling. They meet every requirement of efficient service, preserve the exacting standards of fine Bronze work and will endure as long as the structures of brick and stone in which they are set.



NEW YORK LIFE INSURANCE BUILDING
Cass Gilbert, Architect *Starrett Brothers & Eken, Builders*
BRONZE WINDOWS
of the "Polachek" Double Hung Type Throughout

AIR INFILTRATION TESTS THROUGH STANDARD WINDOWS

TYPICAL CURVES OF TESTS



TABULATED RESULTS OF TESTS

WIND VELOCITY (Miles per hour)		15	25	30
From AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS GUIDE 1931	D. H. Metal Window Non-Weatherstripped	1.2	2.0	2.8
	D. H. Metal Window Weatherstripped	0.5	1.0	1.3
	Wood Window Weatherstripped	0.5	0.9	1.2
From tests by University of Wisconsin, 1931, of "Polachek" Patented Double-Hung Windows		0.2	0.4	0.5

These Curves Show Average Air Infiltration Through the Several Windows Listed Under Varying Wind Velocity Conditions

- A—"Polachek" patented double-hung bronze window tests made by University of Wisconsin, March, 1931, under the most severe conditions, such as leaving the sash unlocked, etc.
- B—Typical wood window—metal weather strips—from data in "The American Society of Heating and Ventilating Engineers Guide," 1931.
- C—Typical double-hung metal window weatherstripped, from data in "The American Society of Heating and Ventilating Engineers Guide," 1931.
- D—Typical double-hung metal window without weatherstripping, from data in "The American Society of Heating and Ventilating Engineers Guide," 1931.

Careful Design and Construction Throughout Have Made the "Polachek" Window, Produced in either Bronze or Aluminum, Stand Out as Finest.

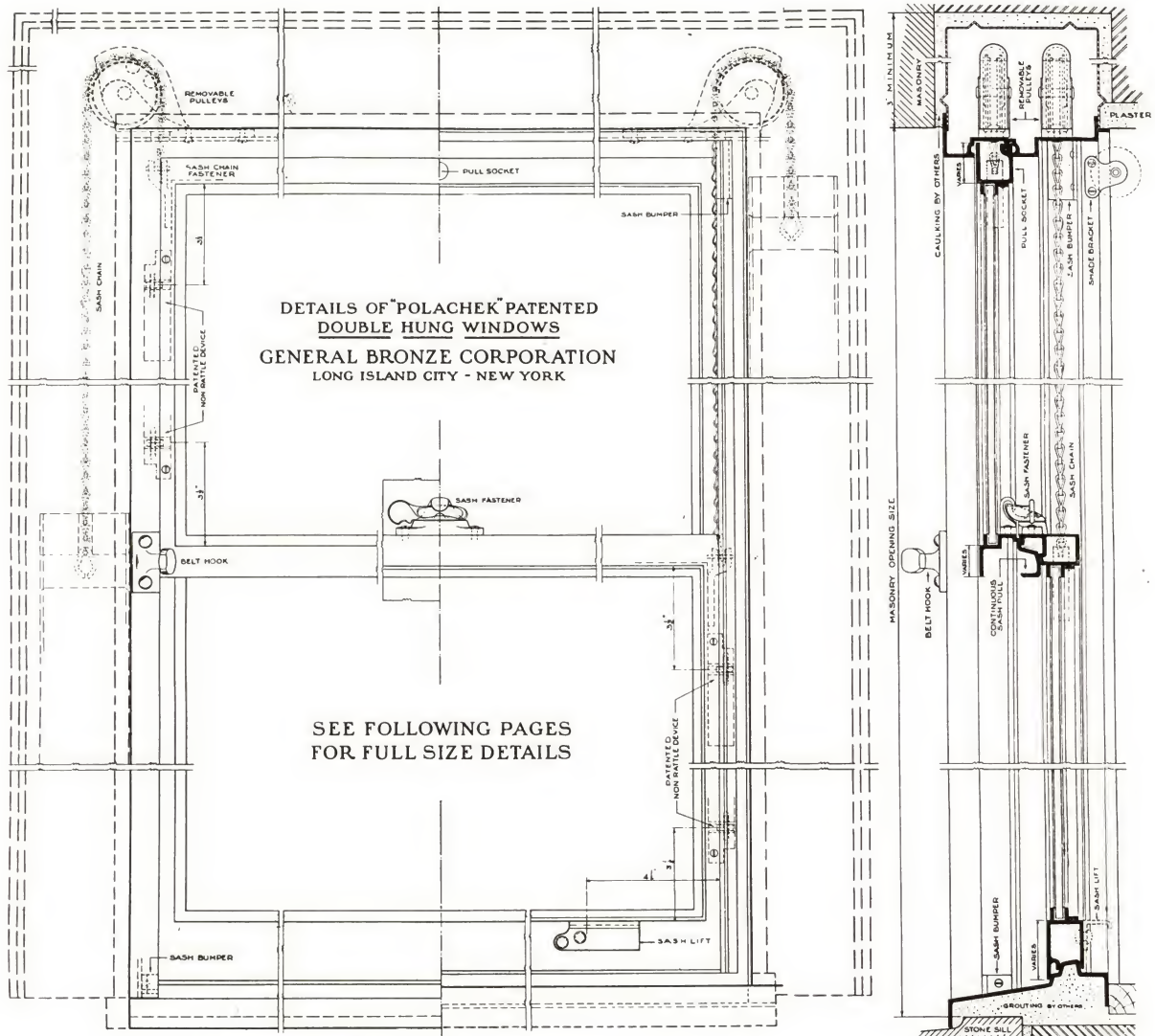
Salient Features of "Polachek" Double-Hung Windows Are Permanent Features

What They Are—

- (1) Easy operation.
- (2) Rattleproof.
- (3) Weatherproof.
- (4) Maximum daylight opening.
- (5) Minimum maintenance cost.

Why They Are—

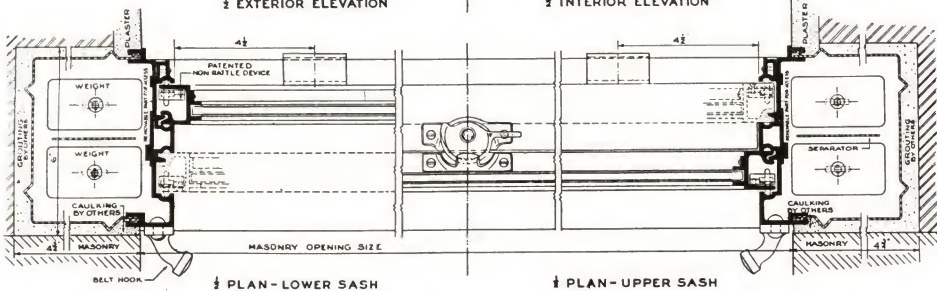
- (1) Rigid construction and exact alignment which prevent binding on the vertical movement, and lever type lifts to break contact at the sill.
- (2) A concealed device, built into the side stiles and instantly adjustable, prevents all lateral movement of sash when in any position.
- (3) Weatherstripping is formed through steel dies as an integral part of main sash and frame members and to the same thickness. The University of Wisconsin tests prove the effectiveness of this sealing. Immovable from its initial position, too heavy to bend, too thick to wear out, this weatherstripping can never lose its effectiveness.
- (4) Careful designing of self-reinforced members has reduced face widths to the minimum compatible with rigid construction requirements.
- (5) Pulleys and chain are readily replaceable. Sash and frame, being of extra heavy non-ferrous metal, and so fitted and assembled that no joint can ever open or leak, will outlast the useful life of the building without repairs, replacements or painting.



1/2 EXTERIOR ELEVATION

1/2 INTERIOR ELEVATION

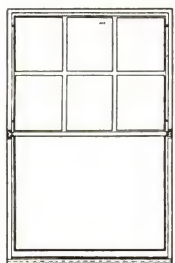
SECTION



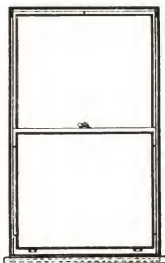
1/2 PLAN - LOWER SASH

1/2 PLAN - UPPER SASH

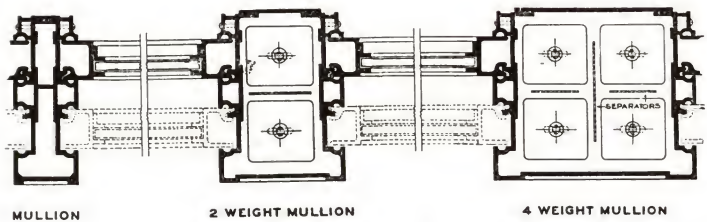
MUNTINS



EXTERIOR ELEVATION OF WINDOW WITH MUNTINS



INTERIOR ELEVATION OF WINDOW TWO LIGHT

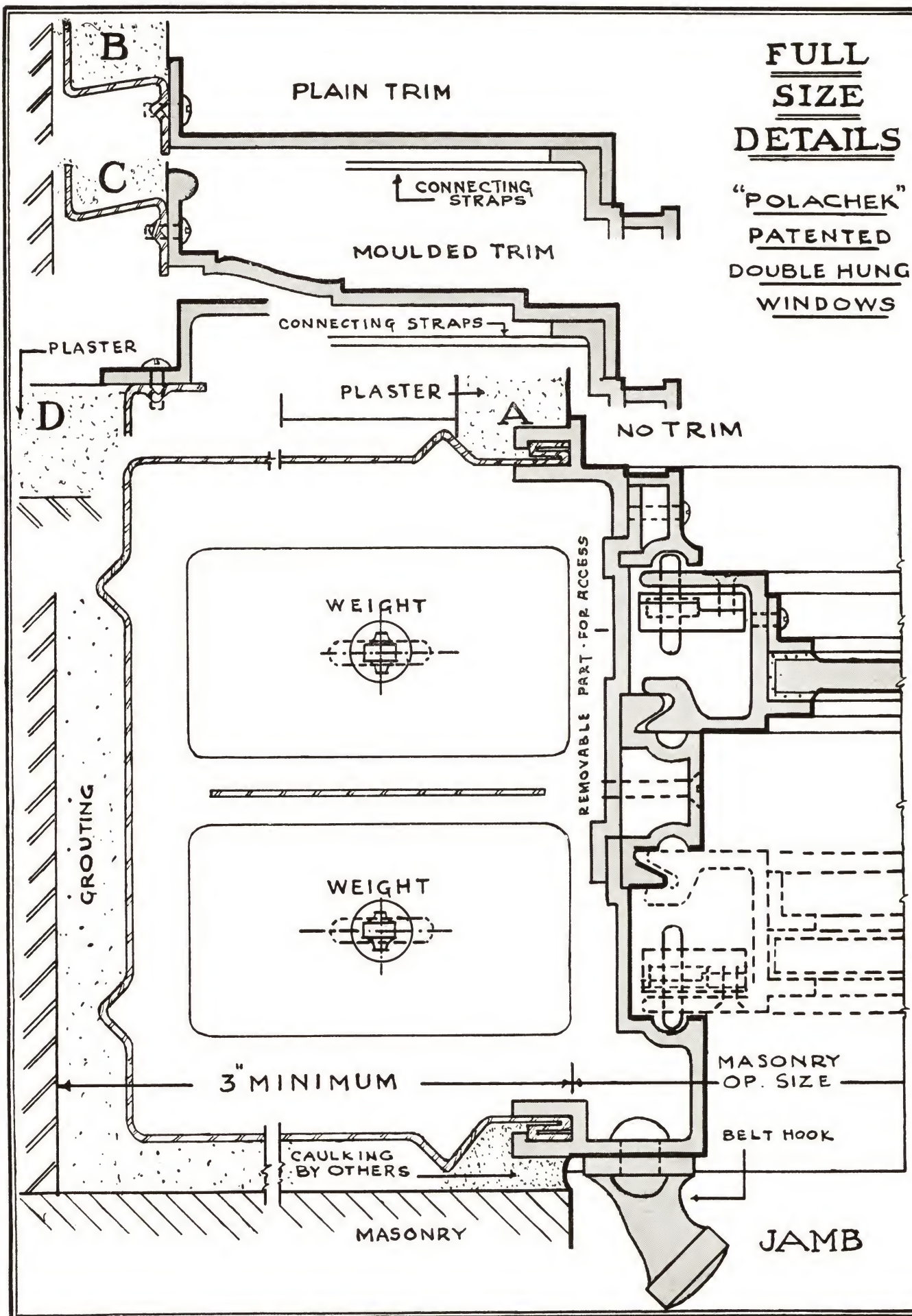


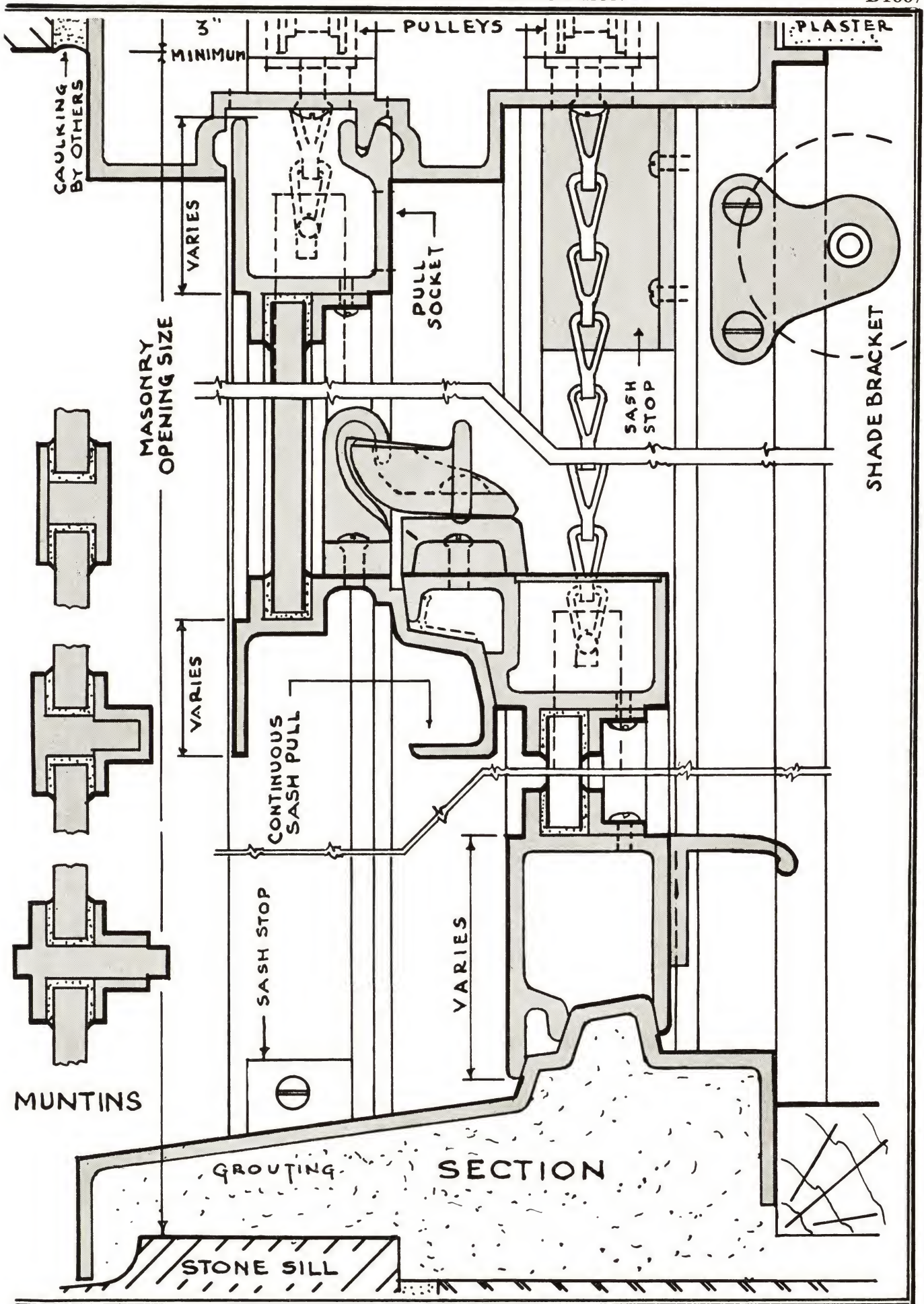
MULLION

2 WEIGHT MULLION

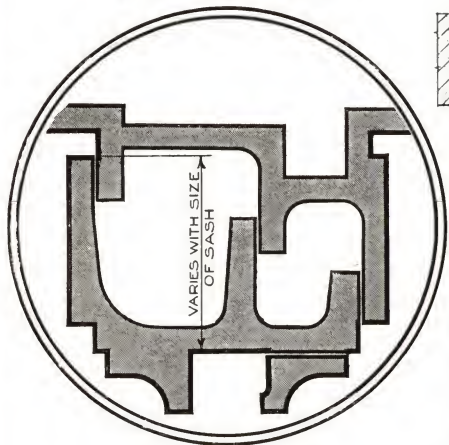
4 WEIGHT MULLION



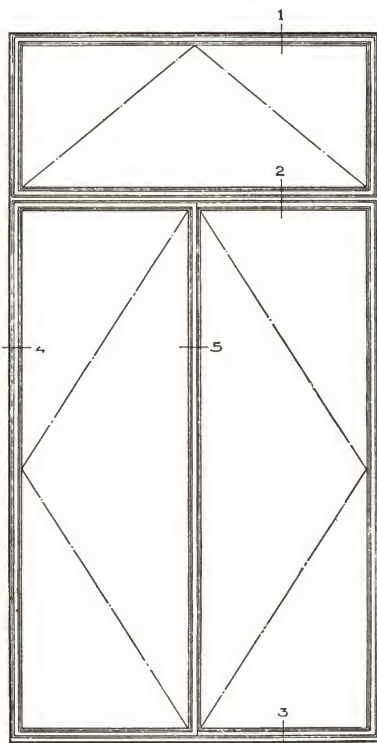
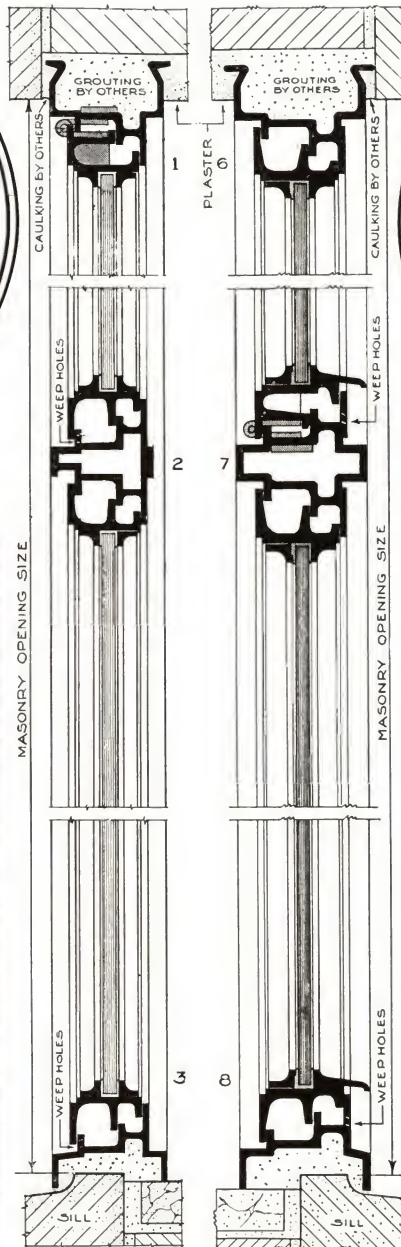




F.S. DETAIL



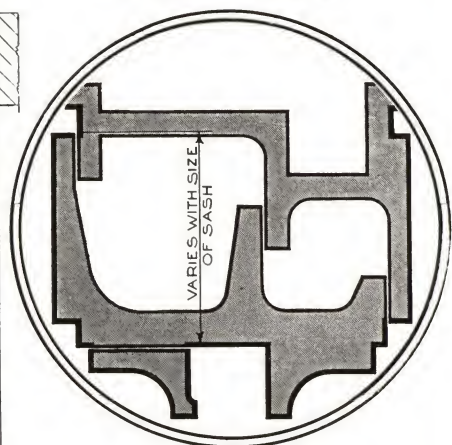
TYPE "A1"

TYPE A
3 POINT CONTACT OPEN SECTION
CASEMENT WINDOW

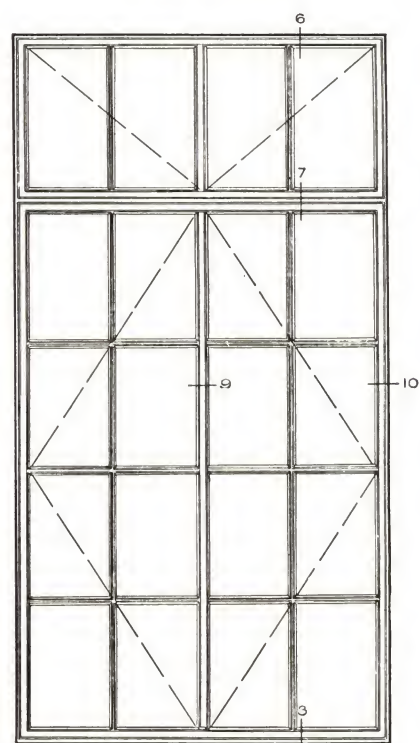
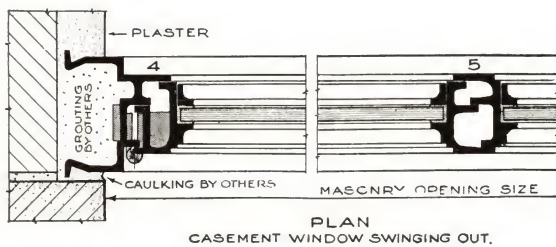
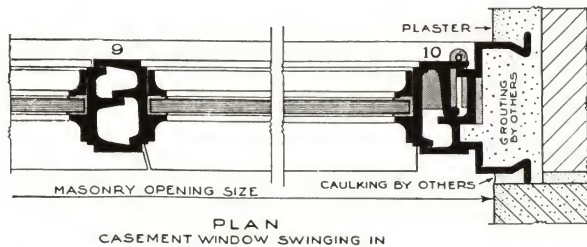
SECTION

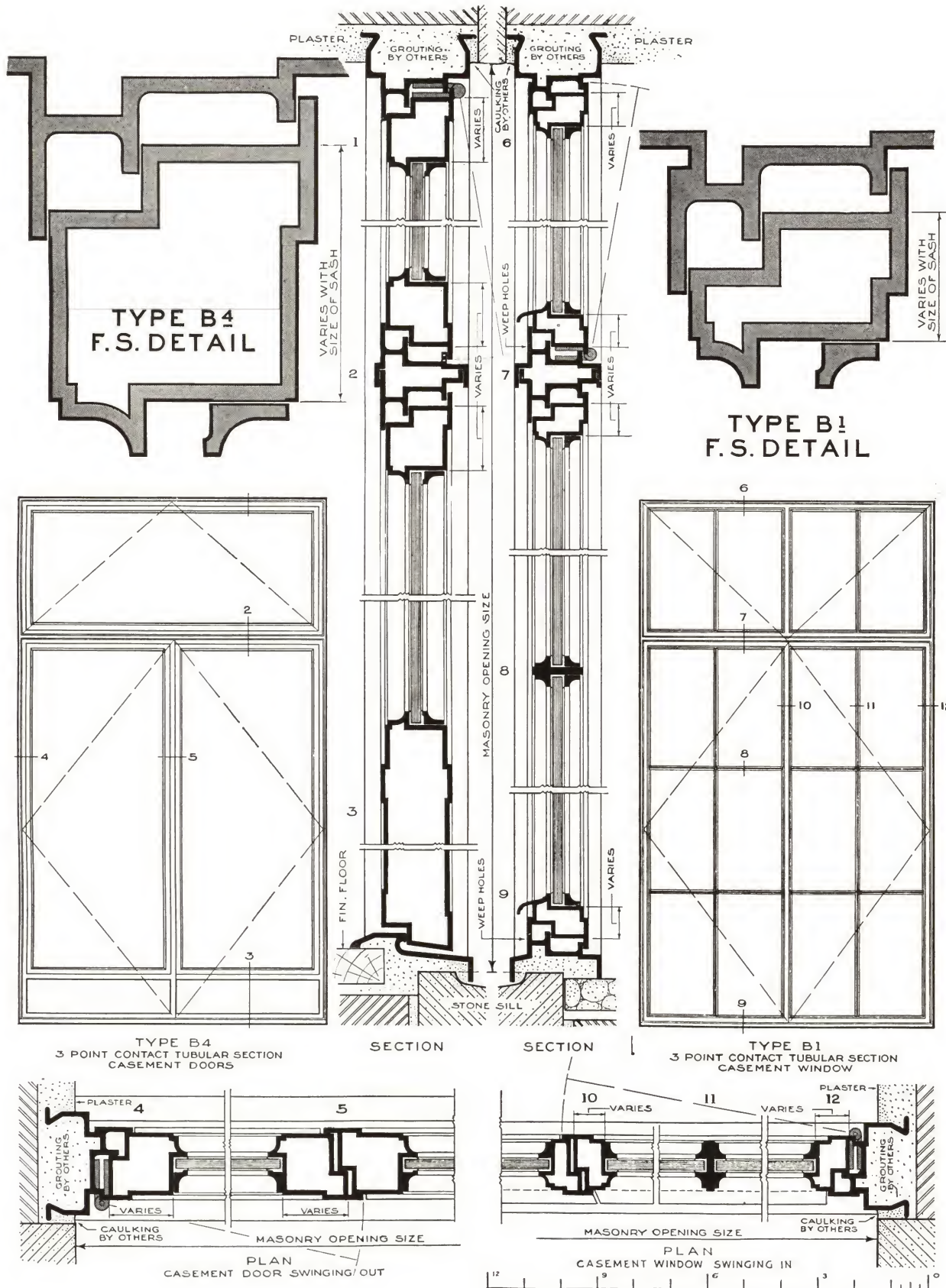
SECTION

F.S. DETAIL



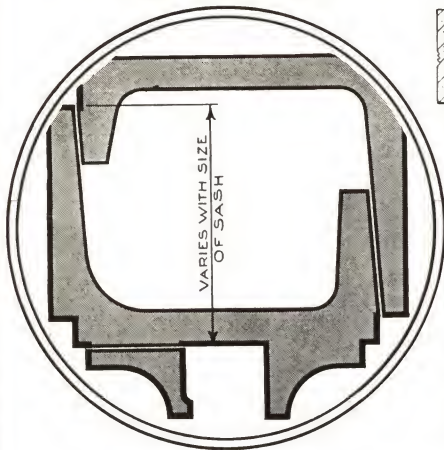
TYPE "A2"

TYPE A2
3 POINT CONTACT OPEN SECTION
CASEMENT WINDOWPLAN
CASEMENT WINDOW SWINGING OUT.PLAN
CASEMENT WINDOW SWINGING INDETAILS OF TYPES A
"POLACHEK"
CASEMENT WINDOWS

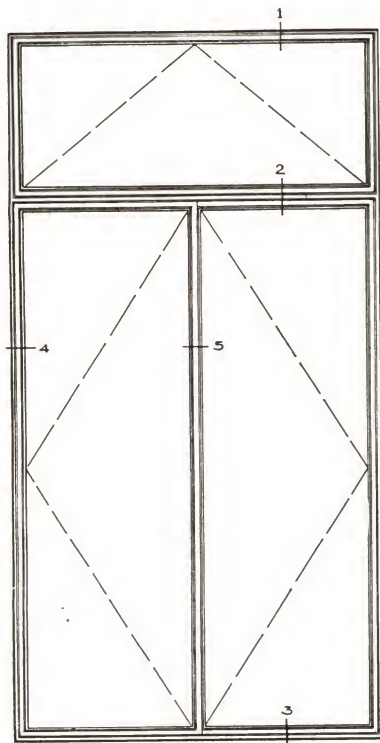
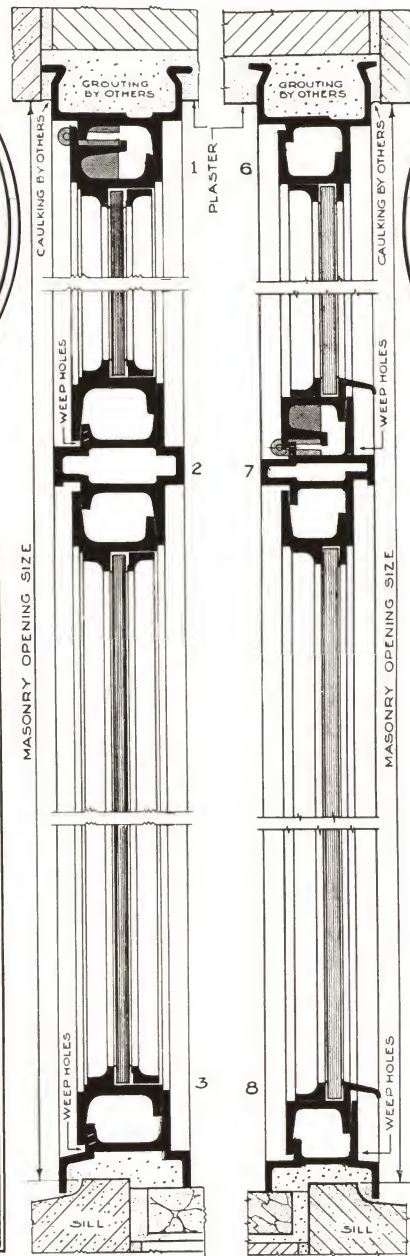


DETAILS OF TYPE B
"POLACHEK"
CASEMENT DOOR AND WINDOW

F.S. DETAIL

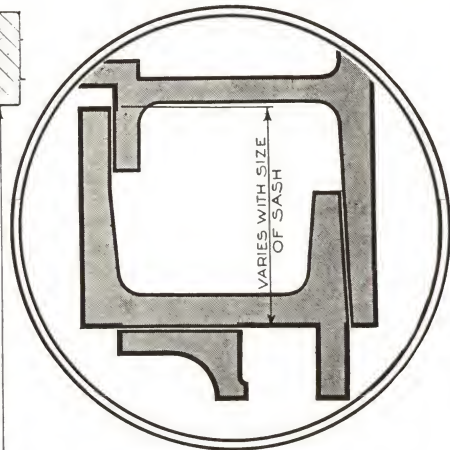


TYPE "C2"

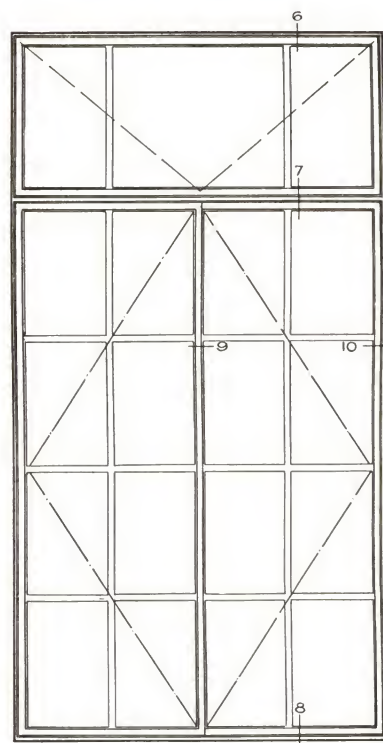
TYPE C2
2 POINT CONTACT OPEN SECTION
CASEMENT WINDOW

SECTION

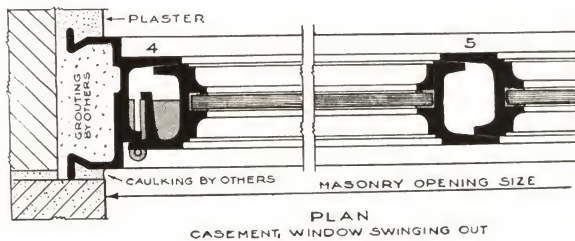
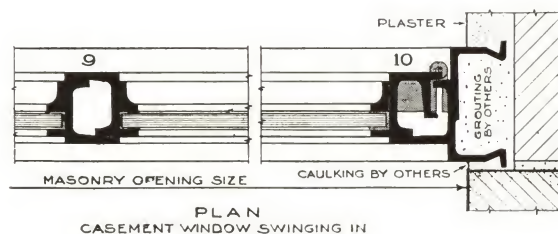
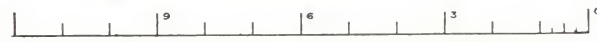
F.S. DETAIL



TYPE "C1"

TYPE C1
2 POINT CONTACT OPEN SECTION
CASEMENT WINDOW

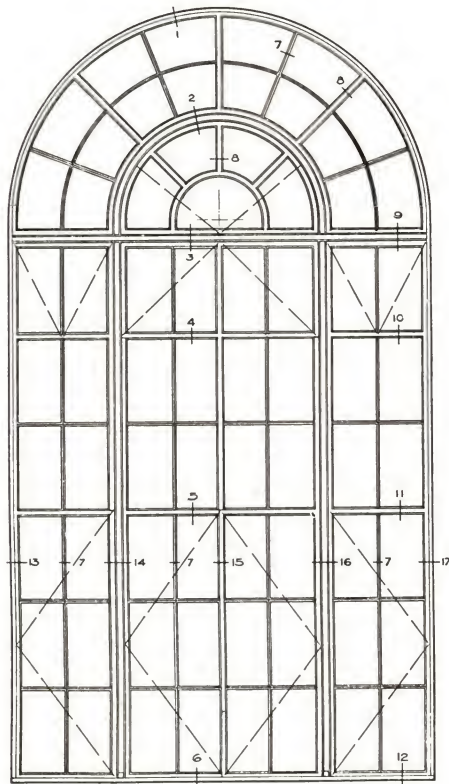
SECTION

PLAN
CASEMENT, WINDOW SWINGING OUTPLAN
CASEMENT WINDOW SWINGING INDETAILS OF TYPES C
"POLACHEK"
CASEMENT WINDOWS

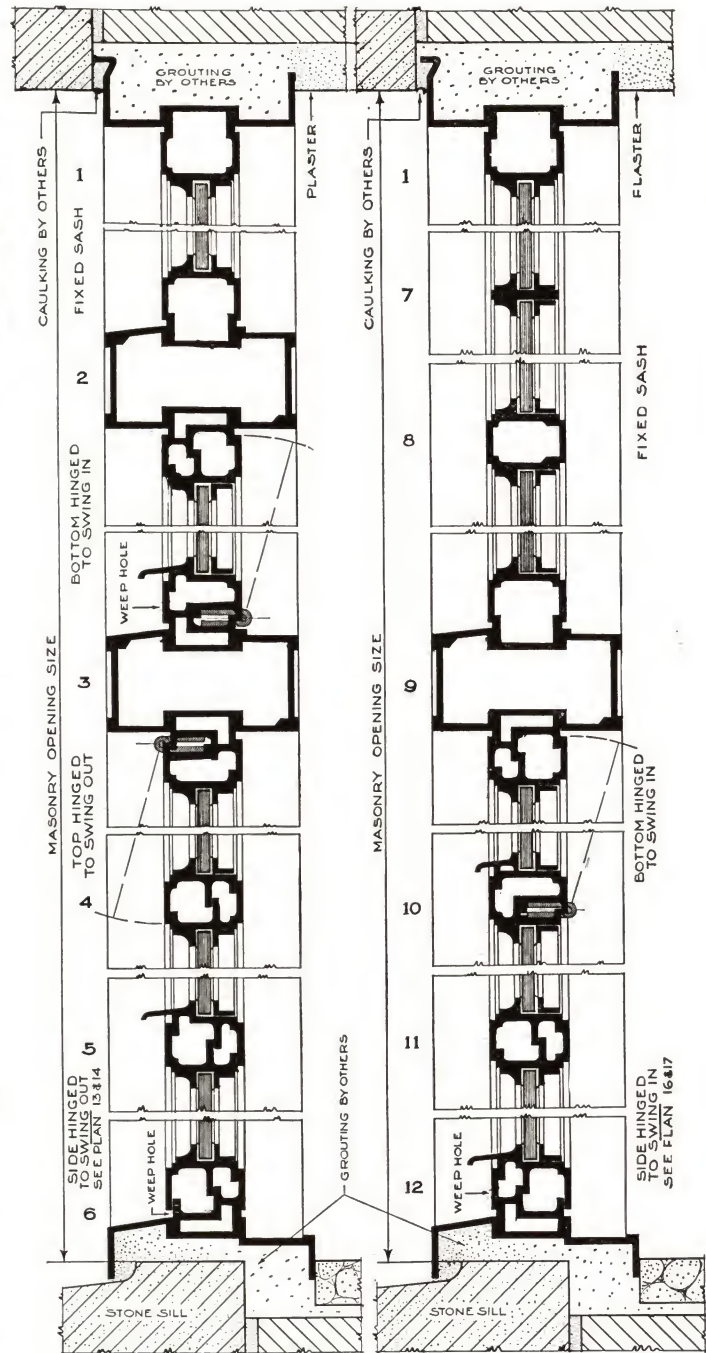
F.S. DETAIL



TYPE "A1"

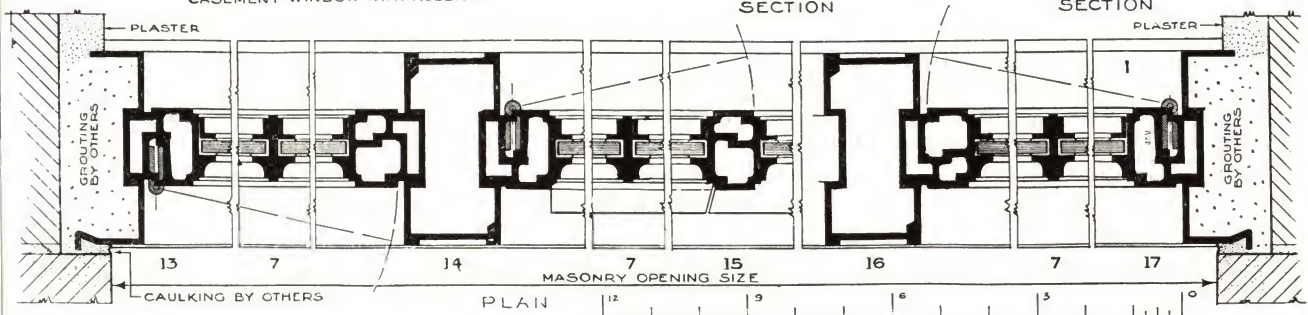


TYPE A
3 POINT CONTACT OPEN SECTION
CASEMENT WINDOW WITH MULLIONS

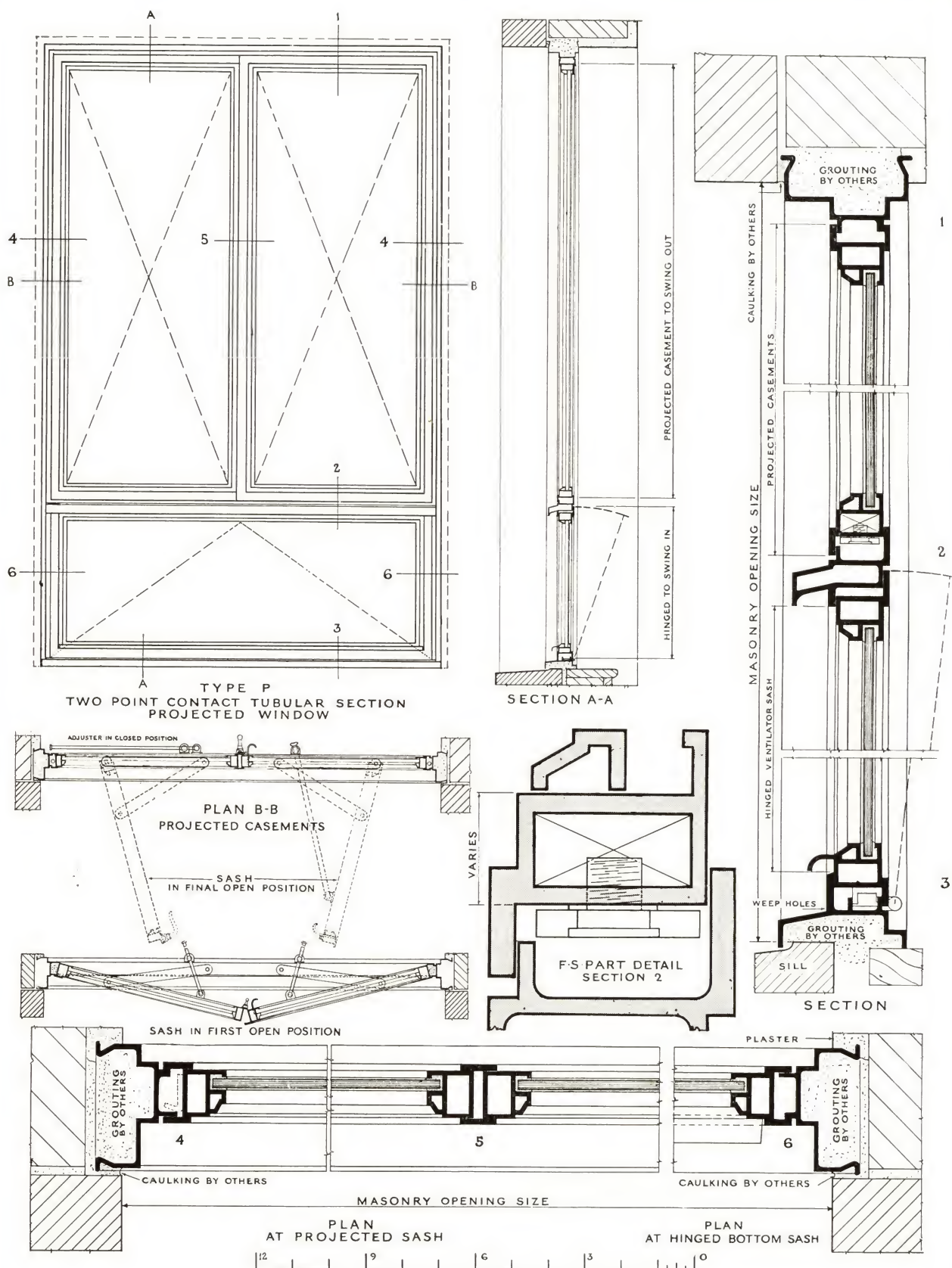


SECTION

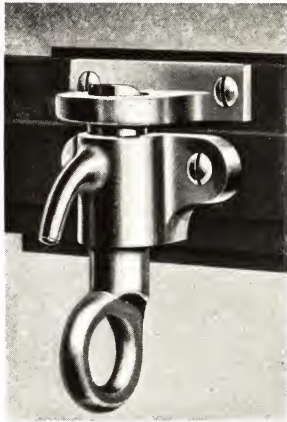
SECTION



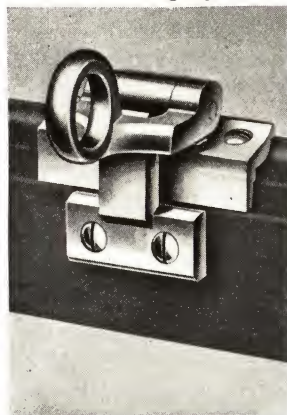
DETAILS OF TYPE A1
"POLACHEK"
CASEMENT WINDOW WITH MULLIONS



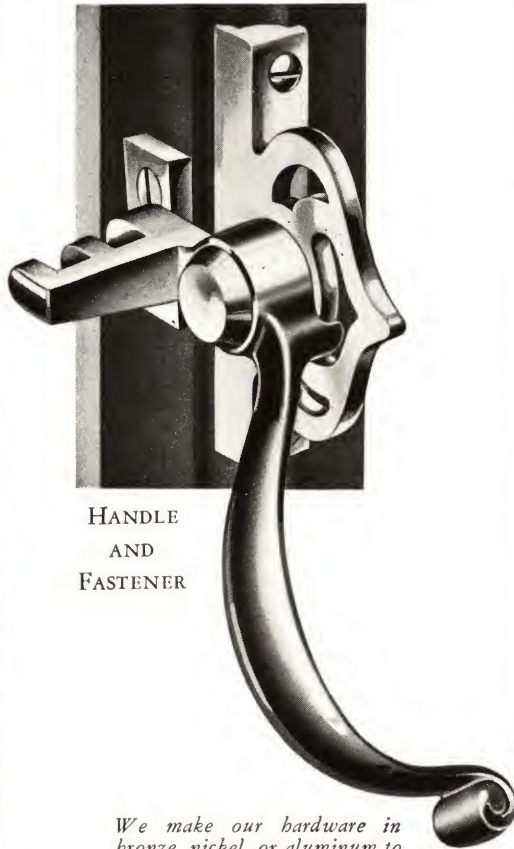
**DETAILS OF TYPE P
COMBINATION PROJECTED CASEMENT
AND BOTTOM VENTILATOR**



TRANSOM CATCH
In Swinging

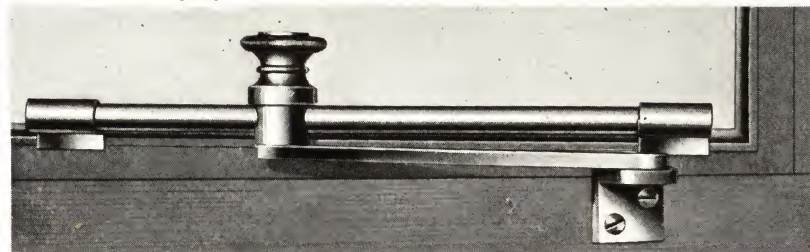


TRANSOM CATCH
Out Swinging

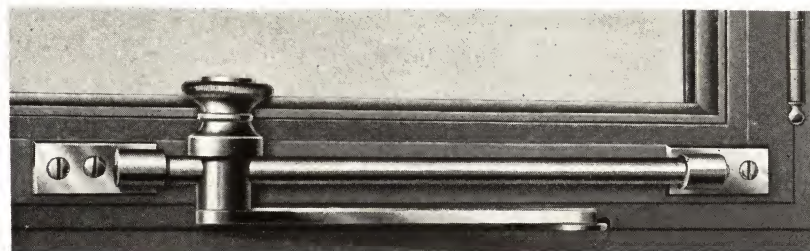


HANDLE
AND
FASTENER

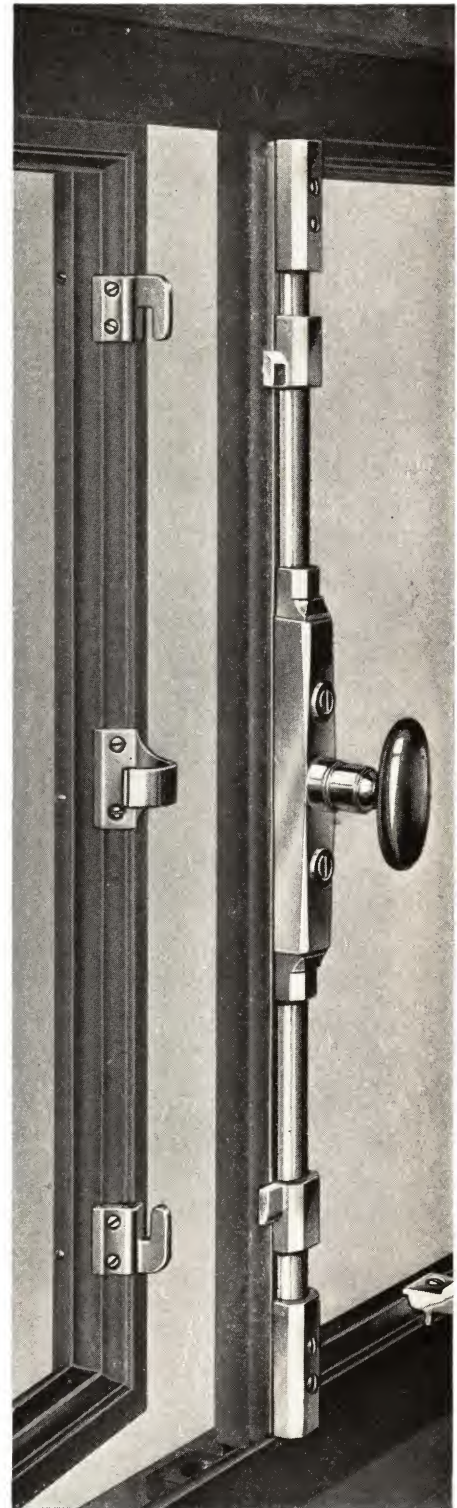
*We make our hardware in
bronze, nickel, or aluminum to
suit special conditions and to
match the window material*



SASH ADJUSTOR—*Out Swinging*

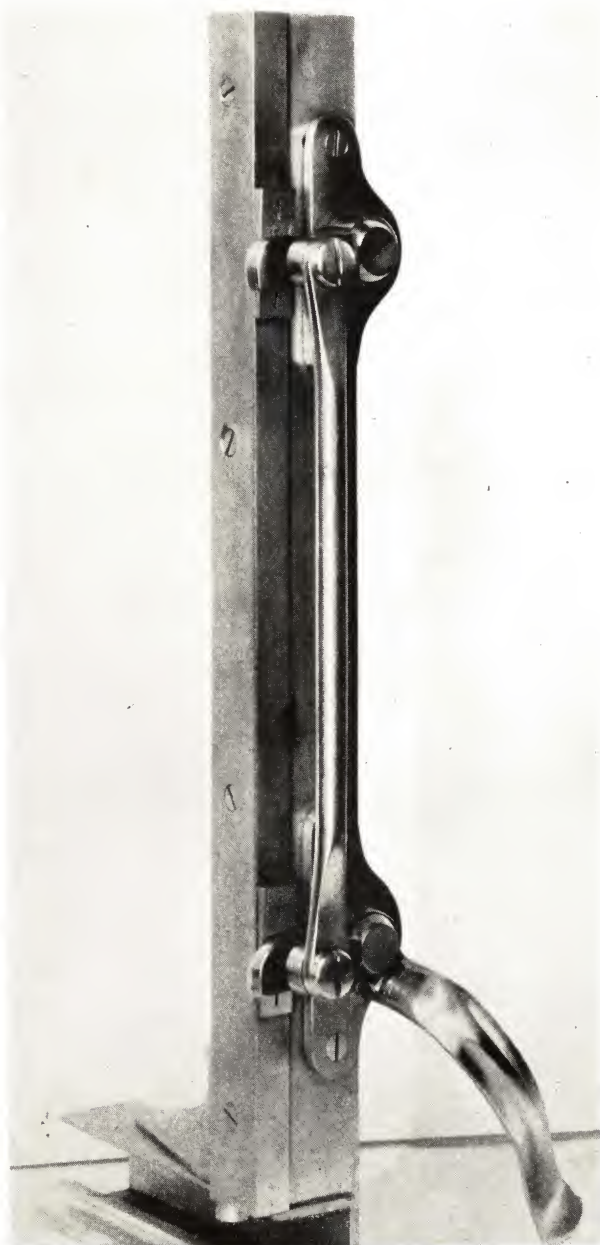


SASH ADJUSTOR—*In Swinging*

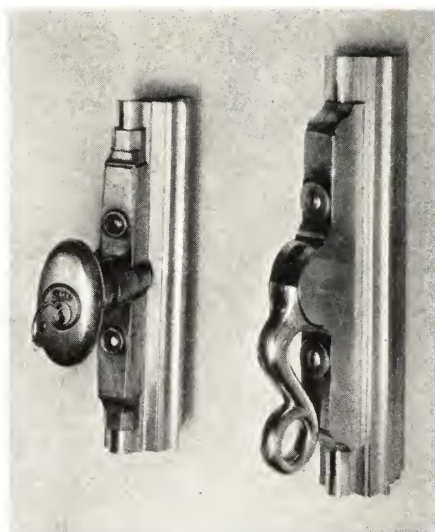


CREMORNE BOLT
top, bottom and center lock

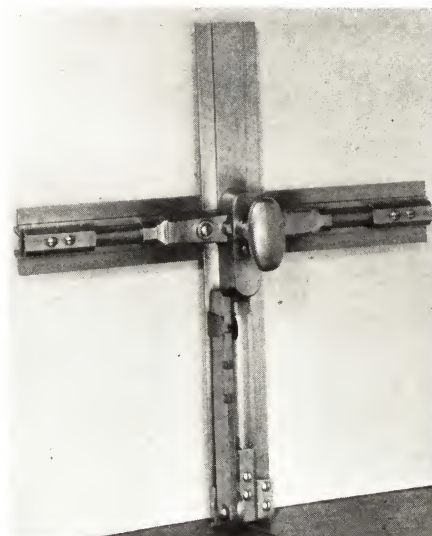
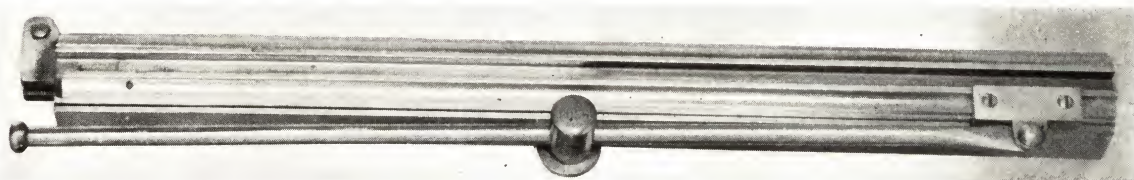
GENERAL BRONZE SPECIAL HARDWARE
FOR CASEMENT WINDOWS AND TRANSOM SASH



TWO-POINT CASEMENT FASTENER

CREMORNE BOLT *with Cylinder Lock*

*We make our hardware in bronze, nickel, or aluminum
to suit special conditions and to match the
window material*

THREE-WAY CREMORNE BOLT
with Adjustable Sash HolderSASH ADJUSTER *for Projected Type Window*

GENERAL BRONZE SPECIAL HARDWARE
FOR CASEMENT WINDOWS AND TRANSOM SASH

DESCRIPTION OF THE "POLACHEK"
PATENTED DOUBLE HUNG AND
CASEMENT WINDOWS

THE "POLACHEK" PATENTED DOUBLE HUNG WINDOW, owned and manufactured exclusively by General Bronze Corporation, is air-tight and weatherproof without binding or rattling in any position; non-rusting, permanent and quiet in operation. Salient patented features are a series of accurately-matched integral wedge-shaped tongues and grooves, effecting positive multiple contacts throughout the perimeter of both sashes when closed, and concealed devices within the sash construction which effectively prevent sash rattling while in any position. Patented in the U.S. on Dec. 1, 1924; and improved on July 7, 1925; July 19, 1927, and Nov. 29, 1927.

All parts of the window are made by special dies of Extruded Metal—a trade name applied to well-known, standardized alloys in Bronze, Aluminum, Benedict Nickel Metals. Metal formed by the extrusion process contributes qualities of particular advantage to window construction—uniformity in profile, strength, rigidity and surface texture. These, combined with intelligent design, precise machining and careful assembling of the members, insure a permanently satisfactory and distinctive installation.

The design of the window is simple, dignified and architecturally correct. Frame and Sash are so designed as to combine sufficient strength with the maximum obtainable of daylight opening. Sash provided for glazing from inside. Construction is rigid and permanent—it being impossible for the corners of sash or frame to open. Mitres, copes, tenons, and all other intersections are precision-gauged and machined; members are carefully fitted and assembled, and each unit thoroughly inspected before shipment. Workmanship is assured thru employment of artisans trained in handling fine ornamental bronze work.

The "Polachek" Double Hung Window is produced in two types:

FIRST TYPE as illustrated on page 6 with no trim, plaster adjoining jamb of the window as shown by the letter "A". In this type, a part of the jamb is removable for access to the weight box, as indicated.

SECOND TYPE provides a metal trim on the inside which gives the window a more pleasing appearance. This trim is removable for easier access to the weight pocket as indicated by letter "B". This type can be furnished with a moulded trim, as indicated by letter "C" or with a trim returning to plaster, as indicated by letter "D", to meet special conditions.

Moulded or plain extruded metal stools, if required, will be provided for any of the above types.

We have designed, for each of the above types, three sets of die sections for horizontal sash rails for varying widths of windows.

STANDARD EQUIPMENT: The frames are fitted with heavy, galvanized iron, asphaltum-coated weight boxes; roller-bearing, overhead-type pulleys in heavy housings bronze faced to match frames; cast-iron weights and Hercules finish or hot galvanized, extra-heavy, steel sash chain, plated to match frames.

Each window is fitted with two sash lifts, one sash lock, one sash pull and four sash bumpers—all heavy, solid bronze, nickel or aluminum to match windows.

STANDARD EXTRA EQUIPMENT: (—) Cleaner's safety hooks and belts, (—) sash pull hooks on wood poles, (—) shade brackets, (—) curtain rod brackets and rods, and (—) drapery hooks.

SPECIAL EXTRA EQUIPMENT: Fly Screens, Wind Shields, Awning Brackets, Venetian Blind Supports, Radiator Brackets and Hoods or Enclosures, with or without grilles.

Special Steel Double Hung Windows are also manufactured by the Corporation. Details upon request.

The "POLACHEK" PATENTED CASEMENT WINDOW is another exclusive product of General Bronze Corporation and embodies the same standards of Good Construction, Excellent Workmanship and Permanent Service. It is so designed and fabricated as to produce continuous three-point contact throughout the sash perimeter, when closed. Patented in the U. S. March 9, 1929.

Frame, sash and trim throughout are of extruded metal from special dies.

The Corporation also makes a casement window, the stiles and rails of the sash being tubular-shaped (closed section) of drawn metal, which is also a three-point contact type, as illustrated on page 9. The tubular-shaped members add strength and rigidity to the sash and a more finished appearance when the sash is open and are specially adapted to large casements and casements extending to the floor that serve as doors.

THE CORPORATION'S SPECIAL PROJECTED TYPE CASEMENT WINDOW WITH BOTTOM VENTILATOR, as illustrated on page 12, offers to Architects and discriminating Owners what may well be termed the last word in controlled window ventilation. The advantages of the bottom ventilator sash, opening in, are too obvious and well understood to require discussion. The upper sliding pivoted sash, opening out, have a wide range of adjustment. The adjustor bar on each sash has four automatic positive locked positions, from none of which can any force applied to the sash release it; so that all danger of damage from gusty wind is eliminated. Yet a slight pressure on the push button instantly frees the bar to permit the sash to be swung to any new position desired.

At the first opened position, as illustrated at the bottom of page 12, it will be observed that the flanges on the meeting stiles of the two sash are still in contact, and that the hinged stiles have not yet been freed from contact with the jambs of the frame. This position creates a flue in which stale air rushes out the top and fresh air comes in at the bottom, insuring constant ventilation with no direct breeze or draught blowing into the room. The three further opened positions successively increase the open air exposure, the final one affording almost 100% clear opening.

When in this fully opened position, as may be noted by referring to the drawings, both sides of the glass may be easily washed from inside the room.

By closing one of these two sash and opening the other, any breeze traveling approximately in the same plane as is the wall, will be trapped and may be deflected into the room at any one of four angles.

A noteworthy feature of this window is the remarkable smoothness with which the sash operate, a smoothness accomplished by a unique arrangement of built in sliding pivot blocks and pivots of a special tempered self-lubricating alloy. Fully housed within the construction, it is impossible for this equipment to become untracked or jammed.

This window can be obtained without ventilator sash, with ventilator sash at the top, or at both top and bottom, as may be desired.

The superior weatherproof qualities of these windows are recognized and attested to by many Architects, Owners and Builders who have used them, and are apparent to the discerning eye from a careful study of the sections herein shown.

STANDARD EQUIPMENT: General Bronze Special Hardware, as illustrated on pages 13 and 14, is standard for all casements. Attractive, sturdy and efficient, it harmonizes perfectly with this most attractive type of window. Note particularly the absence of extreme projections and the general compactness of operating and engaging parts, not obtainable in other makes.

STANDARD AND SPECIAL EXTRA EQUIPMENT for casement windows is furnished the same as noted above for Double Hung Windows.

Complete architectural specifications and details also samples of "Polachek" Double Hung and Casement Windows will be supplied on request. We solicit the opportunity to quote on your requirements.

Address either the Eastern General Sales Office, 480 Hancock Street, Long Island City, N. Y., the Western General Sales Office, 27th Street and 27th Avenue, So., Minneapolis, Minn., or any office of the Corporation's Sales Representatives, located in principal cities.

A PARTIAL LIST OF INSTALLATIONS OF BRONZE AND ALUMINUM "POLACHEK" DOUBLE HUNG AND CASEMENT WINDOWS

<i>Building</i>	<i>Location</i>	<i>Architects</i>
N. Y. LIFE INSURANCE CO.	New York, N. Y.	Cass Gilbert
PRUDENTIAL LIFE INSURANCE BLDG.	Newark, N. J.	Cass Gilbert
WEST VIRGINIA STATE CAPITAL	Charlestown, West Va.	Cass Gilbert
AEOLIAN BUILDING	New York, N. Y.	Warren & Wetmore
N. Y. CENTRAL R.R. OFFICE BLDG.	New York, N. Y.	Warren & Wetmore
PENNSYLVANIA RAILROAD BUILDING	Philadelphia, Pa.	Graham, Anderson, Probst & White
MEDICAL ARTS BUILDING	Cleveland, Ohio	Graham, Anderson, Probst & White
KOPPERS BUILDING	Pittsburgh, Pa.	Graham, Anderson, Probst & White
FOREMAN NATIONAL BANK	Chicago, Ill.	Graham, Anderson, Probst & White
CHASE NATIONAL BANK	New York, N. Y.	Graham, Anderson, Probst & White
MITSUI MAIN BUILDING	Tokyo, Japan	Trowbridge & Livingston
CENTRAL UNION TRUST CO.	66 Broadway, N. Y.	Cross & Cross
FIRST NATIONAL BANK OF BOSTON	Buenos Ayres Branch	York & Sawyer
NORTHWESTERN MUTUAL LIFE INS. CO.	Milwaukee, Wis.	Holabird & Root
MUTUAL BENEFIT LIFE INS. CO.	Newark, N. J.	John H. & Wilson C. Ely
MUNICIPAL BUILDING	East Orange, N. J.	John H. & Wilson C. Ely
NEBRASKA STATE CAPITAL BUILDING	Lincoln, Neb.	Bertram Goodhue Associates
COUNTY OFFICE BUILDING	Pittsburgh, Pa.	Stanley L. Roush
NEW YORK COUNTY COURT HOUSE	New York, N. Y.	Guy Lowell
N. Y. STATE OFFICE BUILDING	Albany, N. Y.	W. E. Haugaard
N. Y. STATE OFFICE BUILDING	New York, N. Y.	W. E. Haugaard
CITY HALL ANNEX	Philadelphia, Pa.	Phillip H. Johnson
STERLING MEMORIAL LIBRARY	New Haven, Conn.	James Gamble Rogers
CLARK LIBRARY	Los Angeles, Calif.	Robt. D. Farquhar
WAYNE COUNTY & HOME BANK	Detroit, Mich.	Albert Kahn
TITLE GUARANTY & TRUST CO.	New York, N. Y.	John Mead Howells
CHEMICAL NATIONAL BANK	New York, N. Y.	Walker & Gillette
BANKERS TRUST COMPANY	New York, N. Y.	Charles E. Birge
EAST NEW YORK SAVINGS BANK	Brooklyn, N. Y.	Holmes & Winslow
HOBOKEN BANK FOR SAVINGS	Hoboken, N. J.	Ludlow & Peabody
BRONX SAVINGS BANK	New York, N. Y.	Morgan, French & Co., Inc.
FIRST NATIONAL BANK & TRUST CO.	Ridgewood, N. J.	Morgan, French & Co., Inc.
CITY NATIONAL BANK & TRUST CO.	Danbury, Conn.	Morgan, French & Co., Inc.
FARMERS BANK	Wilmington, Del.	Edward Canby May
FEDERAL AMERICAN NATIONAL BANK	Washington, D. C.	Alfred C. Bossom
FARMERS NATIONAL BANK	Beaver Falls, Pa.	Uffinger, Foster & Bookwalter
OZONE PARK NATIONAL BANK	Woodhaven, N. Y.	Uffinger, Foster & Bookwalter
ALLENTOWN NATIONAL BANK	Allentown, Pa.	Ruhe & Lange
NEWPORT SAVINGS BANK	Newport, R. I.	Thomas M. James
APARTMENT 740 PARK AVENUE	New York, N. Y.	Rosario Candela
FRED F. FRENCH CO. BUILDING	New York, N. Y.	Fred F. French Co.
PACKARD BUILDING	Philadelphia, Pa.	Ritter & Shay
GRANT BUILDING	Pittsburgh, Pa.	Henry Hornborstel
PHILLIPS OFFICE BUILDING	Butler, Pa.	Janssen & Cocken
VILLA MARIA COLLEGE	Chester City, Pa.	Paul Monaghan
CYPRESS HILLS MAUSOLEUM	Brooklyn, N. Y.	Gregory B. Webb
FAIRVIEW COMMUNITY MAUSOLEUM	Fairview, N. J.	Webb & Sohn
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